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Standardized Exploitation Support Data

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Purpose

- Describe Exploitation Support Data (ESD)
- Describe Sources of ESD
- Describe the Importance of Standardized Airborne ESD
- Describe an Approach to Developing Standardized Airborne ESD

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Requirement

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- **Program Offices Have Stated a Requirement for Standardized ESD**

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Exploitation Support Data

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ESD provides the information needed to process and interpret imagery received through a transfer from either an imagery collection platform, an imagery archive or library, or an exploitation workstation

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Exploitation Support Data Nomenclature

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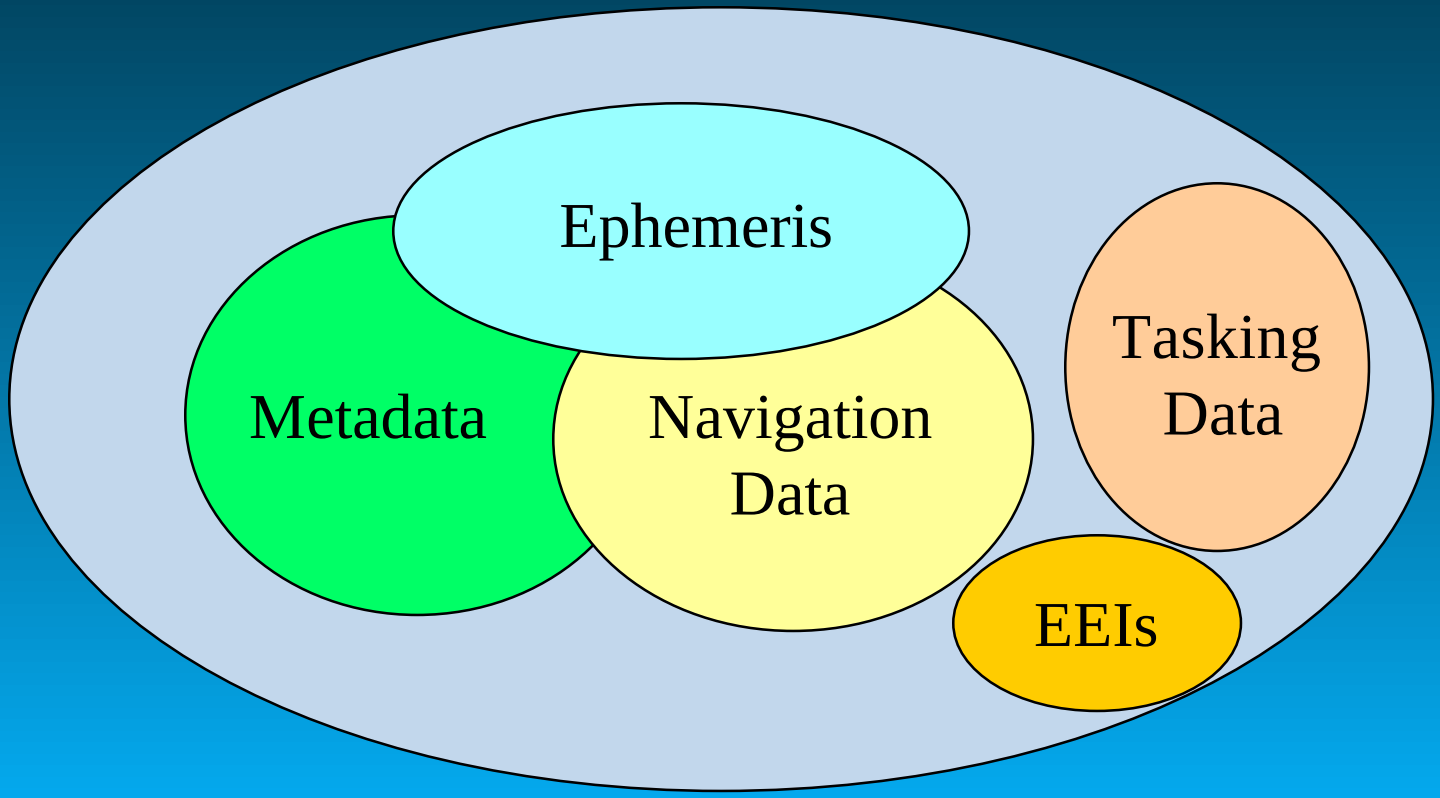
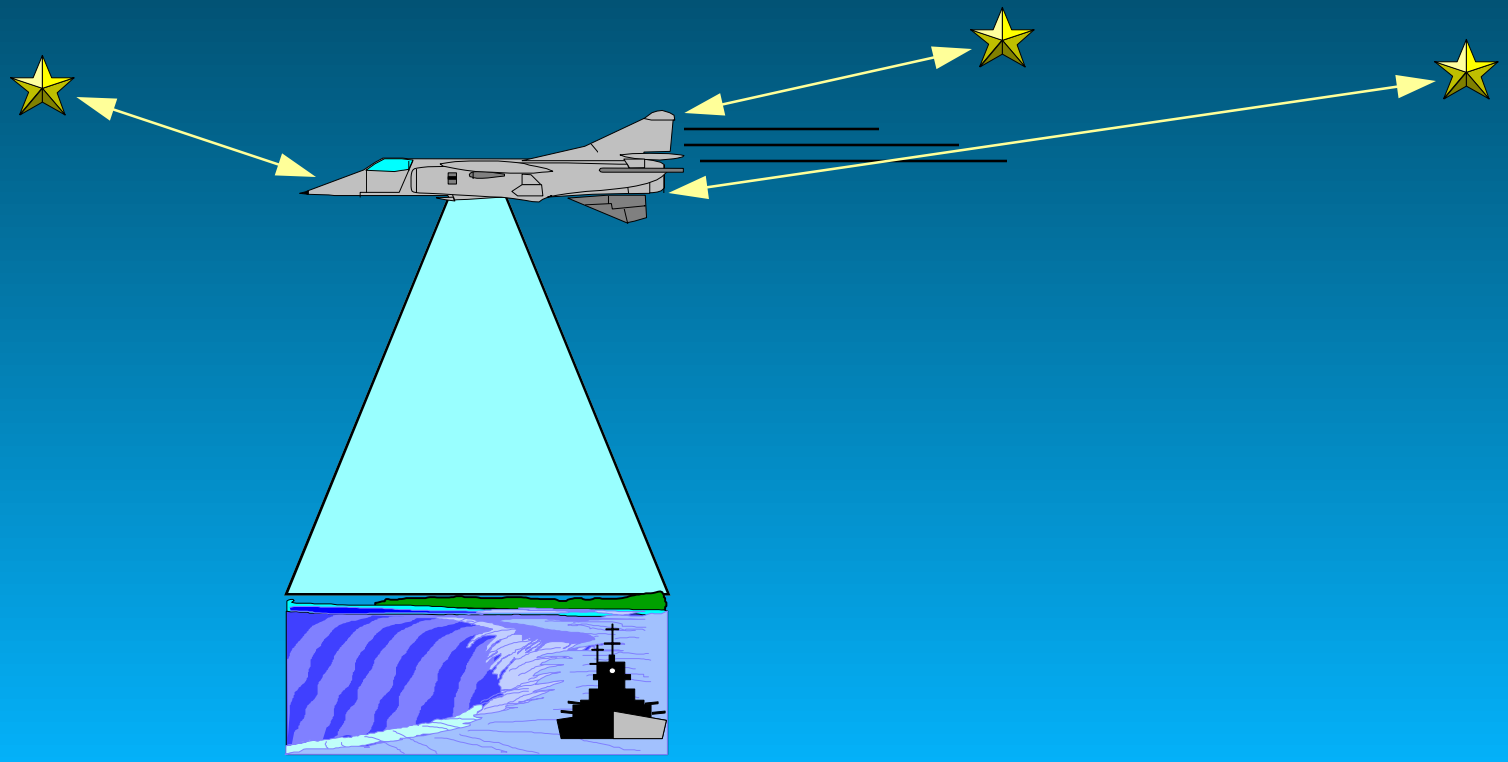


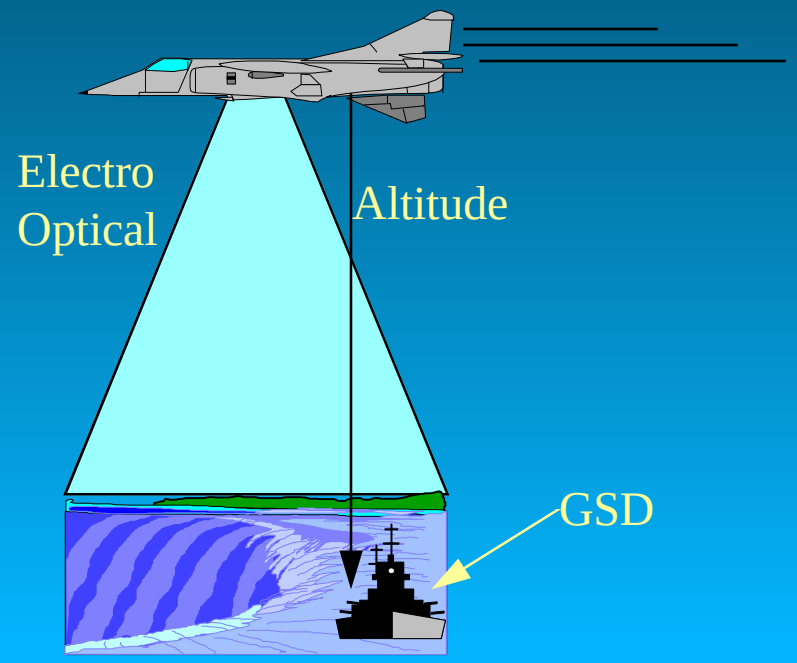
Ephemeris

- **Data which describes the coordinates of a satellite or airborne platform at a number of specific times during its track over an area of interest**



Imagery Metadata

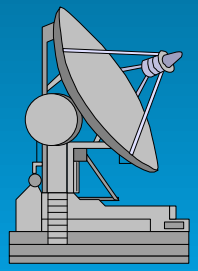
- **The data describing the content, quality, condition, and other characteristics of imagery data**



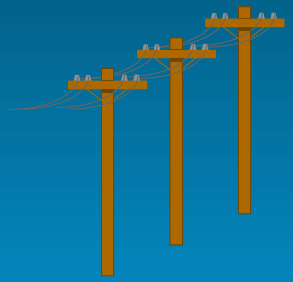
- **The data describing the course of the airborne collection platform**

EEI Data

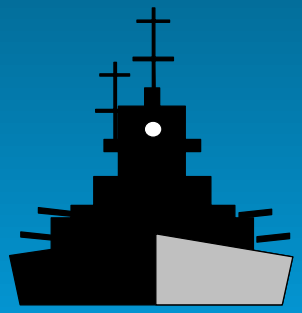
- **Essential Elements of Information (EEI)**
  - **Data that describes for what reason imagery is to be collected**



View of the Object



Target Geocoordinates



Order of Battle

Tasking Data

- Data that describes what, how, when, etc., imagery is to be collected
  - Frequency
  - Periodicity
  - Timeliness
  - NIIRS

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Why Exploitation Support Data

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- Precision Mensuration
- Evaluation of Image Exploitation Usability
- Rapid Positioning Capability
- Automated Population of Imagery Libraries and Archives
- Automated Dissemination of Imagery Against User Profiles
- Production of Hard Copy

ESD Documentation

- Standards Profile for Imagery Archives (SPIA)
- Profile for Imagery Archive Extensions (PIAE)
- NITF 2.0
- Support Data Extensions (SDE) to NITF 2.0
- Sensor Program Offices
- National Systems

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Sources of Airborne Exploitation Support Data

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- **DARO Airborne**
  - **U-2**
  - **F/A-18**
  - **UAV**
- **Other**
  - **Gun Camera Imagery**
  - **Combat Camera**
  - **Video Imagery**

ESD Example

FIELD	NAME	SIZE	VALUE RANGE	UNITS	TYPE
ACFT_LOC	Aircraft Location	21	ddmmss.Xdddmmss.ssY		R
ACFT_ALT	Aircraft Altitude	5	00000 to 999999	ft	R

FIELD	VALUE DEFINITIONS AND CONSTRAINTS
ACFT_LOC	The aircraft position at the GMT of the Patch. The format ddmmss.ssX represents degrees (00-89), minutes (00-59), and hundredths of seconds (00-99) of latitude, with X-N for north or S for south .....
ACFT_ALT	The aircraft altitude in feet above mean sea level (MSL) at the GMT of the Patch.

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Standardized ESD Requirements

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- **Exploitation**
  - **Need one set of exploitation tools and methodologies for all collected imagery**
  - **Prevents Stove Pipes for Individual Imagery Collection Systems**
- **Archive**
  - **Provide ability for automated input of metadata into imagery archive and library**
- **Dissemination**
  - **Provide capabilities to query, browse, and pull against metadata/ESD**

ESD Implementation Strategy

- **Use ASARS-2 SDE as Paradigm for All Airborne SAR Collection Platforms**
  - **All current and future SAR airborne collection systems utilize SAR NITF 2.0 standardized SDE Tags (ESD) where appropriate**
- **Use EO/IR/MSI SDE as Paradigm for All Airborne EO/IR/ MSI Collection Platforms**
  - **All current and future EO/IR airborne collection systems utilize EO/IR NITF 2.0 standardized SDE (ESD) where appropriate**
- **ESD Standardized by Sensor Vice Platform/Mission**
  - **SAR**
  - **EO/IR/MSI**

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APPROACH TO STANDARDIZED AIRBORNE ESD

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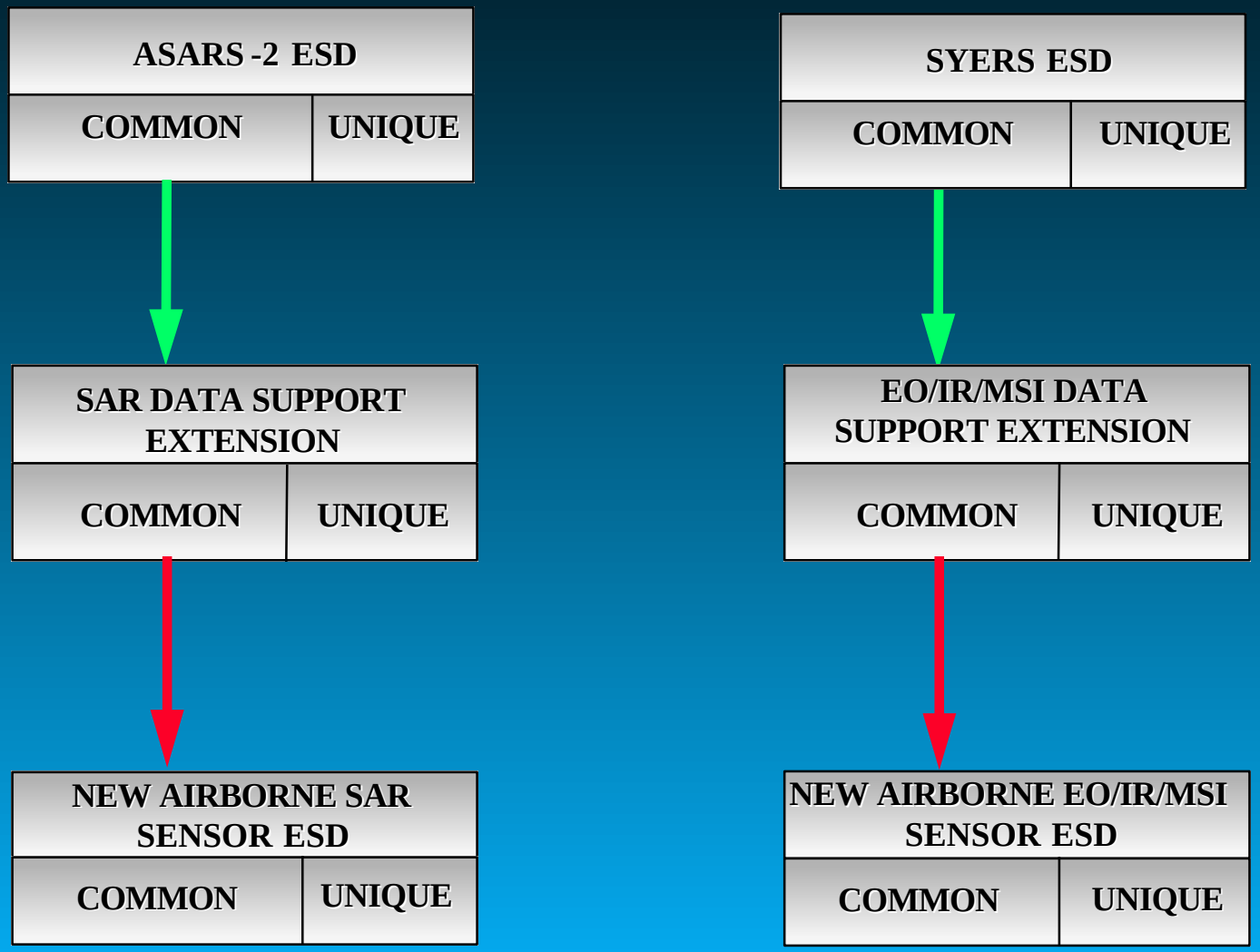

SAR SDE Current Efforts

- **SAR SDE Completed and Coordinated**
  - **National Systems**
  - **Airborne Systems**
    - **ASARS 2**
    - **UAV**
      - **Tier II+**
      - **Tier III-**
    - **Other**
- **POC**
  - **Joe Muchnij: SAIC Dayton, 513-429-6552**
  - **Bill Powers: ASC/RAP, 513-255-4848**

ESD Schedule

- **SAR SDE Being Considered for Approval at Next ISMC, 27 June 1996**
- **EI/IR/MSI SDE Programmed for Development: Schedule TBD**